Patrick Appendix A
Cumulative Effects Analysis
Process and Project Area Activities

The following process and assumptions were used by the Patrick ID Team in their analysis of the effects of actions proposed in this document on their resources.

A. Analysis Area - In general, the analysis area will be the project area. If the resource being analyzed necessitates extending the analysis area outside the project area for an appropriate analysis then the extent of the analysis area is documented under each resource area.

B. Effects - The specific effects of each action alternative on the environment, including the No Action alternative are to be analyzed by each resource area.

Show the cause and effect for Direct, Indirect, and Cumulative effects, defined as follows:

Direct Effects: Explain the direct effects the implementation of the alternatives would have on the environment. These include effects which are caused by the action and occur at the same time and place as the action.

Indirect Effects: Describe indirect effects of alternatives on the environment. Indirect effects include reasonably foreseeable outcomes which are caused by the action but are later in time or farther removed in distance.

Cumulative Effects: The cumulative effects analysis will include:

Past Actions + Present Actions + Proposed Actions + Reasonably Foreseeable

Present actions will incorporate all known activities. Reasonably foreseeable future is approximately 5 years within which we are reasonably certain our proposed actions would occur.

Note: Should any parameter change, it will be documented in the effects writeup for that resource.
VERY IMPORTANT: Begin your Cumulative Effects analysis by defining the cumulative effects boundary for your resource and explain why (ex. for aquatics it may be by watershed or sub-watershed). For others, it may simply be the project area.

C. Analyze the effects in terms of:

1. **Differences from the present condition**: How do each of the alternatives (include all actions under each) change the environment based on what is there now? What are the specific differences between alternatives? What is the direction of the effect (increase or decrease)?

2. **Duration:** How long will the impacts last?

3. **Significance**: Analyze in terms of context and intensity.

    - **Context**: Analyze whether effects are local, regional, national, or affect society as a whole.
    - **Intensity**: Analyze in terms of severity of impacts.

Effects write-ups need to disclose what these actions WILL DO to the environment.

Avoid relative measurements such as "minimal, substantial, etc". Talk about the specific differences between alternatives in units of measure that are relevant, quantifiable, and descriptive. Use the Key Indicators to describe the effects on the key issues.

Use tables graphs, drawings, etc. when appropriate and available.

Use references to relevant scientific studies to back up statements when appropriate and available. In addition, identify where there are information gaps, incomplete or unavailable information.

IMPORTANT: Include a section on Forest Plan Compliance in your reports which describes how the project complies with the goals, standards, and guidelines for your resources.

Include your Literature Cited at the end of your report using the 2012 EMC Publishing Arts Style Guide format.

Sign and date your report – can be electronic signature but needs to be done.

D. Present and Reasonably Foreseeable Future Actions

The following is a list of present and reasonably foreseeable future activities within the project area, and on immediately adjacent public and private lands. This list will serve as a guide for resource specialists as they define their Analysis areas for their resource and identify the direct, indirect, and cumulative effects of implementing the Patrick Vegetation Management project alternatives. Reasonably foreseeable future is defined as within the next 5 years for this analysis.

To understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment to the present.

Present and Reasonably Foreseeable Future Actions in the Patrick Project Area

Project Name	SWS	Year	Activity
Vegetation Management			
Noxious Weed Management	All	Ongoing	Continue prevention and treatment strategies for known noxious weed sites from the 1994 W-W Noxious Weed Management Plan and 2010 WWNF Invasive Species Treatment EIS and ROD, which includes an Early Detection Rapid Response (EDRR) strategy for addressing new sites, along with strategies for preventing the spread of and treating known sites.
Austin Vegetation Management Project EIS – (primarily located on Malheur NF)	Bridge Creek-Middle Fork John Day watershed	Future	No overlap in logging activities or vegetation treatments is expected to occur, however, the Austin project area lies directly adjacent to the Patrick Project. The Austin project is approximately 40,276 acres and includes aspen restoration (332ac), biomass treatment (6,580ac), commercial thinning (28,239ac), mountain mahogany and upland meadow restoration (507ac), non-commercial thinning (905ac), riparian meadow restoration (673ac) and stream and floodplain restoration (3,039ac).
Fuels Reduction and Prescribed Burning			
Austin Vegetation Management Project EIS – (primarily located on Malheur NF)		Future	The biomass treatment, non-commercial thinning and commercial thinning activities listed above for the Austin project would also act as fuels reduction activities. In addition, the entire project area is proposed for prescribed burning. Cumulative effects between the Austin and Patrick Projects would be limited to air resources. No overlap in other portions of the project would occur in regards to space. Air resources for both projects are coordinated through Oregon State Smoke Management rules

Project Name	SWS	Year	Activity
			and regulations. With these requirements, the majority of air resources would have no cumulative effects. The main cumulative effect that may occur would be the extension of prescribed burning for one or both project areas to meet requirements of the smoke management plan when coordination limits the amount or volume of smoke that could be placed in the airshed at any given time. This effect is an normal and expected part of prescribed burning for both the local forest and the forests near and adjacent to project.
Ongoing prescribed burning from multiple projects areas on the Umatilla, Malheur, and Wallowa Whitman National Forests		Ongoing	While none of the projects overlap in space and would have no cumulative effects in regards to overlap in space, prescribed burning within these projects have the ability to overlap within the airshed in and around both the Patrick and other project areas. As above, air resources are coordinated with Oregon Smoke Management personnel to minimize the effects of smoke from prescribed burning to the air shed. Smoke impacts to the airshed would be generally short duration events with coordination of project implementation for all the projects working with Oregon Smoke Management personnel to minimize long term or high concentration smoke impacts.
Special Uses			
Ditches, power lines, etc.		Ongoing	Approximately 70 long/short term SUP's (including ditches) have been identified in and adjacent to the project area. SUPs are not required to be in effect for all ditches. Mitigations for possible conflicts are addressed during and/or before the SUP operating plan is authorized or project is implemented.
Recreation			
Developed Sites			There are no developed recreation sites – campgrounds, picnic areas or recreation residences in the project area, therefore there would be no cumulative effects from developed sites.
Antlers Guard Station - FS Maintained Structures		Ongoing	This guard station is part of the forest's recreation rental program. Season of use is May – October. Other than routine maintenance to the facility and routine occupancy during the season of use, no other actions are planned at this time.
Tipton Station Interpretative Site		Ongoing	There are no plans to do anything with this sign or site in the foreseeable future, therefore there would be no cumulative effects from this site.
Hiking Trails and Trailheads		Ongoing	There are no hiking trails in the project area. However, there is a large winter and summer trailhead - Blue Springs Summit. This is generally used by motorized trail users, not hikers. There is a vault toilet in the parking area.
Dispersed Camping	All	Ongoing	Dispersed camping occurs primarily during hunting season and can occur throughout the project area since there is currently no restriction on cross-country motorized travel.
Firewood Cutting	All	Ongoing	District-wide personal use firewood
Snowmobiles Routes	All	Ongoing	Blue Springs Summit Snow Park Trailhead is located on the northern edge of the project area. This TH provides access to forest land for skiers and snowmobilers. No activity is planned for this area except routine maintenance.
OHV Use – Current			Approximately 10 miles of trail # 01972 is located in the northeast and southeast section of the project area. The only foreseeable actions would be routine maintenance of the trail. OHV use is permitted on most roads within project area and cross-country.
Roads & Trails			

Project Name	SWS	Year	Activity
Danger Tree removal	All	On going	Fall and remove Danger Trees as prescribed in: Filip, G., et al (2014). Field Guide for Hazard-Tree Identification and Mitigation on Developed Sites in Oregon and Washington Forests. Portland, OR: USDA For. Ser. Pac. NW Reg.
Road Maintenance	All	Ongoing	Road maintenance is done on an as needed basis. Budget is the main factor. Safety repairs and Emergency repairs always receive priority.
Range Allotments			
Range allotments in the Patrick project area	All	Ongoing	Camp Creek (vacant), Alder Springs, Snow Creek, North Burnt River, Elmwood, Hale, Whitney, Cree, and West Burnt River allotments
Wildlife Enhancement			
Patrick Creek Cooperative Travel Management Area	Patrick Creek-North Fork Burnt River, Petticoat Creek-North Fork Burnt River	Ongoing	Period of Restriction: May 1 through July 1 – Calving season closure and three days prior to the opening of rifle deer season through the close of the last elk season
Mining			
Mining		Ongoing	13 plans of operation have been approved under the 2013 North Fork Mining EIS and standalone EA's. Multiple NOI's have been submitted and there is potential for more mining proposals to be approved and NOI's submitted. The area is open to mineral entry.
Private Land Activities			
Commercial Harvest	All	2015-2020	None known at this time
Fuels Reduction	None		There are currently approximately 40 acres of planned fuels reduction activities on private lands within the Whitney Valley. This activity would take place within the legal: T10S R36E Section 21
Private structures	All	Ongoing	Various locations throughout the project area.
Grazing	None	None	There is grazing on Private Land.
Roads	None	None	No known new road construction planned.

Cumulative Effects Determination Tables

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects/or Rationale for No Cumulative Effects (state if different between Alt 2 and 3)
		Time	Space		
Silviculture/Vegetation					
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	While these activities would improve vegetative health and sustainability due to removal of competition from invasive species, it would be difficult to measure at the landscape level.
Veg Management- Austin project, Malheur NF		Yes	No	No	There may be some overlap in time with respect to implementation of these projects. However, activities that have a measurable effect on forest vegetation occur within a relatively small area as trees and associated vegetation compete for available resources in the form of sunlight, moisture, soil nutrients and growing space. Because there is no overlap in space between the two projects there are no anticipated cumulative effects from Austin project in conjunction with the Patrick Project on vegetation. Effects of large scale events such as climate change have the potential to effect vegetation on a scale much larger than the project area as analyzed. These potential effects are described within the effects portion of this report.
Special Uses: Ditches, power lines, etc		Yes	Yes	No	Special Uses would have negligible effects to vegetation due to the limited scale across the project area.
Recreation- Dispersed Camping		Yes	Yes	No	Dispersed camping may have a small effect on vegetation within the immediate area of a specific campsite. However, these effects would be negligible when added to the overall effects of treatment due to the spatial scale of dispersed camping within the project area.
Recreation- Snowmobile Trails		Yes	Yes	No	No additional snowmobile trails are planned as part of this project therefore there would be no cumulative effects on vegetation.
Recreation -Firewood Cutting		Yes	Yes	No	Firewood cutting will continue within the Patrick project area as allocated by the Wallowa Whitman Firewood permit. This permit does not allow cutting of live trees. Other than identified hazard trees this project will not be removing dead standing trees. Therefore there would be no cumulative effect to vegetation as a result of the two actions.
Recreation – OHV Use		Yes	Yes	No	There will be no additional OHV trails created or authorized as part of this project. Therefore there would be no cumulative effects to vegetation.
Recreation – Antlers Guard Station		Yes	Yes	No	Antlers Guard Station lies within the project area. Use of this guard station

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					would have no cumulative effects on vegetation.
Roads & Trails – Travel Management Plan		Yes	Yes	No	No new permanent roads will be constructed as part of this project. Use of existing roads and trails will not have an effect on vegetation.
Road Maintenance		Yes	Yes	No	Routine scheduled road maintenance on US Forest Service Roads as well as County roads within the project area would continue. Additional road maintenance would take place in association with activities described under both alternatives 2 and 3. Effects to conifer vegetation would result from removal of identified Hazard/Danger trees as well as general road brushing for maintenance and in preparation for commercial log haul. However, the potential effects of tree removal associated with road maintenance are incorporated within general silvicultural prescriptions that were analyzed under the direct and indirect effects of the vegetation management portion of this EA and silviculture report. There would be no additional effects to vegetation and therefore no cumulative effects.
Roads – Danger Tree Removal		Yes	Yes	No	Danger trees would be identified by qualified personnel in accordance with the 2008 Field Guide for Danger Tree Identification and Response, 2008. The effect of danger tree removal is anticipated to be nominal due to the small scale of removal in relation to the overall treatment area.
Grazing Allotments	Impacts to Cottonwood or Aspen?	Yes	Yes	No	Cottonwood/Aspen has the potential to be impacted by grazing; fencing will be used to mitigate this potential effect where necessary.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	The wildlife closure area would restrict the timing of vegetation management within this area, but there would be no overall effect to vegetation.
Mining		No	No	No	There are several mining claims within the Patrick project area. Active mining within these claims has the potential for tree removal. This would have a direct effect on the vegetation within the confines of the identified claim. Although these claims are within the project area there would be no overlap with identified treatment areas. There may be a slight reduction in live trees across the entire project area as a result of mining, but there would be no cumulative effects to vegetation since there is no actual spatial overlap in activities and the scale of tree removal resulting from mining would be minimal with respect to the entire analysis area.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Private Land Activities		Yes	Yes	No	There are several private land parcels both adjacent to and interior to the project area. Although some of these parcels are interior to the outer extent of the project area they are bound out of the project by the property boundary and not analyzed as part of the project area. Therefore, there is no actual overlap in space. There have been many activities that have taken place on adjacent private lands. These include commercial timber harvest, mining, cattle grazing, hunting and recreation. These activities are anticipated to continue. Although there would be overlap in time there would be no cumulative effects to vegetation due to lack of overlap in space.
Recreation, Visuals, IRAs, PWAs, and Unroaded areas					
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	These activities may overlap some areas of recreation areas, but the impact would be limited and difficult to measure at the landscape scale.
Veg Management – Austin project, Malheur NF		No	No	No	
Fuels Reduction & Rx Burning - Austin project, Malheur NF		No	No	No	
Special Uses:		Yes	Yes	No	Special uses are generally limited in space and occur only in the area specific to the authorized use, There are limited special uses and there will be no impact to general recreation in the project area.
Recreation-Dispersed Camping		Yes	Yes	No	Dispersed recreation occurs throughout the project area, but will not be directly impacted by vegetation management activities.
Recreation-Snowmobile Trails		No	Yes	No	Snowmobile TH is on northern edge of project area. Impacts to snowmobile use will be minimal, unless there will be winter vegetation mgmt. activities
Recreation -Firewood Cutting		Yes	Yes	No	Firewood cutting will continue throughout the project area. Campers tend to pick up firewood close to recreation sites for use in their own campfires, leaving minimal opportunity for other cutters. There will be minimal overlap from firewood cutters and recreationists collecting firewood
Recreation – OHV Use		Yes	Yes	No	OHV trails exist throughout the project area, specifically O-1972, however due to design features, no adverse impacts would occur on the trails
Recreation – Antlers Guard Station		Yes	Yes	No	Guard Station lies within the project area and is only available through reservations. This limits number of people at the site, so no cumulative effects.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Roads & Trails – Travel Management Plan		Yes	Yes	No	No new permanent roads will be constructed. Use of existing roads will maintain recreation access to the forest, but use will not be significant
Road Maintenance		Yes	Yes	No	Road maintenance activities may cause an impact to recreation access, but it would be very limited in length of time and space
Roads – Danger Tree Removal		Yes	Yes	No	The effect of danger tree removal is expected to be minimal, due to the small scale in relation to the project
Grazing Allotments		No	No	No	
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	There may be some overlap in time with these projects but the wildlife enhancement work does not overlap in space, so no cumulative effects
Mining		No	No	No	
Private Land Activities Private Structures		Yes	No	No	Private land activities are varied and on-going in the project area, but all recreation is on FS land, there is no overlap in space.
Cultural Resources					
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	Invasive plant species eradication through application of herbicides and hand removal is considered to have little to no potential to impact cultural resources. No cumulative effects.
Veg Management – Austin project, Malheur NF		No	No	No	
Fuels Reduction & Rx Burning – Austin project, Malheur NF		No	No	No	
Special Uses:		Yes	Yes	No	No specific Special Use activities or authorizations are planned as part of the Patrick project. No cumulative effects.
Recreation-Dispersed Camping		Yes	Yes	No	Dispersed camping is considered to have little to no potential to impact cultural resources. No specific dispersed camping activities are planned as part of the Patrick project. Therefore, there are no cumulative effects.
Recreation-Snowmobile Trails		Yes	Yes	No	No additional snowmobile trails are planned as part of the Patrick project. Therefore there would be no cumulative effects.
Recreation -Firewood Cutting		Yes	Yes	No	Personal use firewood cutting is generally a by-hand activity and is considered to have little to no potential to impact cultural resources. No cumulative effects.
Recreation – OHV Use		Yes	Yes	No	There will be no additional OHV trails created or authorized as part of the Patrick project. Therefore, there would be no cumulative effects.
Recreation – Antlers Guard Station		Yes	Yes	No	The Guard Station is within the project area. It is only available through

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					reservations, limiting the number of people at the site. Other than routine maintenance to the facility and routine occupancy during the season of use, no other actions are planned at this time. No specific activities relating to the Patrick project are planned. No cumulative effects.
Roads & Trails – Travel Management Plan		Yes	Yes	No	No new permanent roads will be constructed as part of the Patrick project. No cumulative effects.
Road Maintenance		Yes	Yes	No	Road maintenance when confined to existing road prisms is considered to have little to no potential to impact cultural resources. No cumulative effects.
Roads – Danger Tree Removal		Yes	Yes	No	The effect of danger tree removal is expected to be minimal, due to the small scale in relation to the project. Hazard tree removal using existing skid trails, roads, or other hardened surfaces where historic properties are not affected is excluded from cultural resource case-by-case review. No cumulative effects.
Grazing Allotments		Yes	Yes	No	Grazing occurs on some parts of the Patrick project area, but there are no specific allotment activities planned as part of the Patrick project. No cumulative effects.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	The wildlife closure area would restrict the timing of vegetation management within this area, but timing would have no overall effect to cultural resources. No cumulative effects.
Mining		No	No	No	No plans of operation are being put in place as a result of the Patrick project. Existing operators are required to follow approved plans that protect cultural resources. No cumulative effects.
Private Land Activities Private Structures		Yes	Yes	No	Private land activities are varied and on-going in areas adjacent to Forest Service land. However, there is no overlap in space. No cumulative effects.
Range					
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	Treating invasive species may help the forage base in the area and prevent invasive species from further displacing forage plants.
Veg Management – Austin project, Malheur NF		No	No	No	
Fuels Reduction & Rx Burning – Austin project, Malheur NF		No	No	No	
Special Uses: Ditches, power lines, etc.		Yes	Yes	No	Special Uses would have negligible effects to livestock due to the limited scale across the project area.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Recreation-Dispersed Camping		Yes	Yes	No	Dispersed recreation occurs throughout the project area but will not be directly impacted grazing activities.
Recreation-Snowmobile Trails		No	No	No	
Recreation -Firewood Cutting		Yes	Yes	No	Firewood cutting will continue throughout the project area, the cutting may scare livestock into other areas but will have limited impact.
Recreation – OHV Use		Yes	Yes	No	OHV trails exist throughout the project area, the use may scare livestock into other areas but will have limited impact.
Recreation – Antlers Guard Station		Yes	Yes	No	Guard Station lies within the project area and is only available through reservations. This has no impact on grazing.
Roads & Trails – Travel Management Plan		Yes	Yes	No	No new permanent roads will be constructed. Use of existing roads will still allow permittees to access range improvements.
Road Maintenance		Yes	Yes	No	Road Maintenance activities may distribute livestock in areas but will have limited impact to grazing
Roads – Danger Tree Removal		Yes	Yes	No	Removal of danger trees will have no impact on grazing
Grazing Allotments		Yes	Yes	No	Treatments will have limited impacted to grazing allotments.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	The closure area will not have an impact on grazing. Cattle will still be able to access the area.
Mining		No	No	No	
Private Land Activities Private Structures		Yes	Yes	No	Private land activities are varied and on-going in the project area, but cattle grazing is only on National Forest Lands.
Minerals					
Noxious Weed Management	Reduction of invasive species competition overlapping mining claim and areas of operation.	Yes	Yes	No	Operators with approved plans are required to follow mitigation as required by the approved plan NW1-NW9 North Fork Burnt River EIS, no adverse effects are anticipated.
Veg Management – Austin project, Malheur NF	No effects	No	No	No	No effects
Fuels Reduction & Rx Burning	Timing issues during mining season, size of actual claim may emerge onto areas prescribed for RX burning	Yes	Yes	No	RX fuels reduction is not anticipated for immediate areas of operation, RX burning could be implemented on the claim, however the use of timing mitigations for RX operations would eliminate adverse effects to the operation.
Special Uses:	Claims in SUP Right of Ways	Yes	No	No	No adverse effects due to location of SUP'S proximity to the claims.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Recreation-Dispersed Camping	Camping and recreating with-in the claim boundary's	Yes	Yes	No	Mining claims are considered public land and camping is permitted on public land, no adverse effects are anticipated.
Recreation-Snowmobile Trails	recreating with-in the claim boundary's	Yes	Yes	No	Mining claims are considered public lands, snowmobile routes are on public land, and no adverse effects are anticipated. Mining does not take place in the winter.
Recreation -Firewood Cutting	Removal of surface resources (Firewood)	Yes	Yes	No	Firewood is a surface resource and surface right for the operator. If removal of timber from the claim is considered a taking from the miner, it's the government's obligation to provide in kind material to the operator. No adverse effect to the operations anticipated.
Recreation – OHV Use	recreating with-in the claim boundary's	Yes	Yes	No	Mining claims are considered public land, OHV routes are on public land, and no adverse effects are anticipated.
Recreation – Antlers Guard Station	recreating with-in the claim boundary's	Yes	Yes	No	No claims with-in Antlers guard station
Roads & Trails – Travel Management Plan	Closed roads or access routes.	Yes	Yes	No	All claimants will have reasonable access to their claims, no adverse impacts anticipated.
Road Maintenance	Closed roads or access routes	Yes	Yes	No	All claimants will have reasonable access to their claims, no adverse impacts anticipated
Roads – Danger Tree Removal	Closed roads or access routes	Yes	Yes	No	All claimants will have reasonable access to their claims, if access is impeded it will be sort in duration. No adverse impacts anticipated
Grazing Allotments	No effects	Yes	Yes	No	No effects
Wildlife Enhancement – Patrick Closure Area	Closed roads or access routes/area closures	Yes	Yes	No	There are currently no claims with-in the Patrick closure area, however if a claim is filed the claimant can be granted access from State Fish and Wildlife.
Mining	No effects	No	No	No	NA
Private Land Activities Private Structures	No Effects	No	No	No	
Fire and Fuels Management					
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	Noxious Weed Management is coordinated between Fuels/Fire personnel and Range personnel in charge of invasive species/weed management. Prior to implementation of any of the proposed activities, recommendations from Invasive species management from the district are acquired and implementation of the project activity is modified as needed to minimize risk of spread of invasive species beyond its current occupational area.
Veg Management – Austin project,		No	No	No	

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Malheur NF					
Fuels Reduction & Rx Burning	Larger Analysis area for smoke impacts	Yes	Yes	Yes	Potential for smoke impacts; however, these are managed under air quality standards for all projects and are coordinated through Oregon smoke management office to minimize impacts both locally and at a larger scale.
Special Uses:		Yes	Yes	No	Special Uses would have negligible effects to fire/fuels management due to the limited scale across the project area.
Recreation-Dispersed Camping		Yes	Yes	No	Human caused fires are a minor part of the fire starts within the area. There are many dispersed camp sites, thus the potential for fire starts from vehicles, campfires, and smoking exist. This potential for starts does not change due to implementation of the project. The project will reduce the effects of wildfire consequences after they have started by reducing fuels and vegetation around many of the dispersed sites and along the road system allowing for better initial attack response with lower fire intensities due to the reduction in fuel loads.
Recreation-Snowmobile Trails		Yes	Yes	No	While recreation on snowmobiles do overlap in space and to a small amount time, there would be no effects to snowmobile trail access as no work generally happens during the winter months once snow has fallen on the ground and does not start up again until after snow melt. Fuels projects would have no effect on snowmobile trails or access. See Silviculture section for effects from commercial harvest activities.
Recreation -Firewood Cutting		Yes	Yes	No	Firewood cutting will continue within the Patrick project area as allocated by the Wallowa Whitman Firewood permit. This permit does not allow cutting of live trees. Other than identified hazard trees this project will not be removing dead standing trees. Therefore, there would be no cumulative effect as a result of the two actions.
Recreation – OHV Use		Yes	Yes	No	There will be no additional OHV trails created or authorized as part of this project. Therefore, there would be no cumulative effects to vegetation.
Recreation – Antlers Guard Station		Yes	Yes	No	Antlers Guard Station lies within the project area. Use of this guard station would have no cumulative effects on fuels treatments.
Recreation – Campground		Yes	Yes	No	Camping within the project area would have no cumulative effects on fuels treatments.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Roads & Trails – Travel Management Plan	Reduced Potential for human caused fires. Increased response time.	Yes	Yes	Yes	No new permanent roads will be constructed as part of this project. Use of existing roads and trails will not have an effect on fire response times for fire apparatus and personnel.
Road Maintenance	Decreased response time.	Yes	Yes	No	Slight potential to improve response times due to better maintained road surfaces.
Roads – Danger Tree Removal		Yes	Yes	No	Removal of danger trees would have no effect on response times of fire personnel and have no effect on fuel treatments. Fire personnel working in the area may see a slightly lower risk of injury due to removal of danger trees in the immediate area where the trees are removed.
Grazing Allotments	Reduction in fine fuel loadings	Yes	Yes	Yes	Grazing reduces the fine fuel loading in the natural openings improving the efficacy of fuel reduction actions. Active allotments may have the grass reduce to a level that reduces fire spread rates. Livestock grazing is not expected to impede progression toward historic fire return intervals.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	Wildlife closure areas within the project will not effect fire response as personnel have access into the area during closure for wildfire responses. Fuel Treatments will be designed to minimize impacts to the closure by having work completed outside of the closure timeframes whenever possible.
Mining		No	No	No	
Private Land Activities		Yes	Yes	No	Fire Response on private lands is the responsibility of state and local authorities. Activities on private lands will not be effected by the implementation of the project under either alternative. Access to the private lands will remain the same as prior to implementation and none of the project is to occur on private lands.
Rocky Mountain Elk					
Noxious Weed Management	Increase in forage quality and quantity	Yes	Yes	No	While these activities would improve elk habitat quality, it would be difficult to measure at the landscape level.
Veg Management - Austin project, Malheur NF	Shift in elk distribution from alteration of cover, forage, and security habitat	Yes	Yes	Yes	There is a potential for cumulative effects but it is unknown whether it would be measurable. See elk section in wildlife report for additional discussion.
Fuels Reduction & Rx Burning - Austin project, Malheur NF	Shift in elk distribution from alteration of cover, forage, and security habitat	No	No	No	There is a potential for cumulative effects but it is unknown whether it would be measurable. See elk section in wildlife report for additional discussion

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Special Uses:		Yes	Yes	No	Special Uses will have no to minimal impact on elk.
Recreation-Dispersed Camping	Shift in elk distribution and/or impacts to body condition and reproduction from human disturbance	Yes	Yes	No	It has been documented that human-associated disturbance has the potential to displace elk and/or deplete energy reserves that are critical for successful reproduction. The Patrick project would remove forested cover, which could influence the way elk respond to the ongoing human disturbance associated with dispersed camping. However, the cumulative effects would be difficult to measure at the landscape scale.
Recreation-Snowmobile Trails	Shift in elk distribution and/or impacts to body condition and reproduction from human disturbance	No	Yes	No	The Patrick project area functions primarily as summer range so elk are unlikely to be present during snowmobile use of trails within the project area.
Recreation -Firewood Cutting	Shift in elk distribution and/or impacts to body condition and reproduction from human disturbance	Yes	Yes	No	It has been documented that human-associated disturbance has the potential to displace elk and/or deplete energy reserves that are critical for successful reproduction. The Patrick project would remove forested cover, which could influence the way elk respond to the ongoing human disturbance associated with recreation. However, the cumulative effects would be difficult to measure at the landscape scale.
Recreation – OHV Use	Shift in elk distribution and/or impacts to body condition and reproduction from human disturbance	Yes	Yes	No	It has been documented that human-associated disturbance has the potential to displace elk and/or deplete energy reserves that are critical for successful reproduction. The Patrick project would remove forested cover, which could influence the way elk respond to the ongoing human disturbance associated with recreation. However, the cumulative effects would be difficult to measure at the landscape scale.
Recreation – Antlers Guard Station	No effect	Yes	Yes	No	The human presence associated with Antlers Guard Station is so small in scale it would not change the way elk are using the area.
Roads & Trails – Travel Management Plan	Shifts in elk distribution and/or impacts to body condition and reproduction from human disturbance	Yes	Yes	Yes	The future TMP in combination with the postsale road management plan in this project could reduce road densities and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing security habitat for elk. However, it is unclear whether the road management plan proposed in this project would have a measurable effect at the landscape scale.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Road Maintenance	No effect	Yes	Yes	No	Effects to elk from ongoing road maintenance are insignificant because road maintenance occurs infrequently and impacts to elk would be short-term.
Roads – Danger Tree Removal	No effect	Yes	Yes	No	Effects to elk from danger tree removal are insignificant because danger tree removal occurs infrequently and impacts to elk would be short-term.
Grazing Allotments	Shifts in elk distribution and/or impacts to body condition and reproduction from competition with cattle	Yes	Yes	No	It has been documented that cattle can displace elk. However, the cumulative effects would be difficult to measure at the landscape scale. See elk section in wildlife report for additional discussion.
Wildlife Enhancement – Patrick Closure Area	No effect	Yes	Yes	No	Provides additional security habitat for elk but the effects of maintaining this closure area were considered part of the existing condition.
Mining		No	No	No	No approved plans of operation
Private Land Activities		Yes	Yes	No	No effect to elk.
PETS – Wildlife					
Noxious Weed Management	Impacts from application of herbicide, human disturbance associated with treatments, and habitat improvement from reduction in invasive species.	Yes	Yes	No	Weed treatments are very localized and project design features exist that protect sensitive species.
Veg Management - Austin project, Malheur NF	The effects from silviculture activities proposed in the Austin Vegetation Management Project would be additional alteration of suitable habitat for PETS species.	Yes	Yes	No	Bats- Silviculture activities within the adjacent Austin project could remove additional roost trees for bats but the cumulative loss of roost trees would not lead to a downward trend in the population because bats are highly mobile and suitable roost trees are abundant across the forest. Snails- Silviculture treatments proposed in the Austin project could have cumulative effects on mollusk survival and dispersal but long term effects at the population level are not expected because sufficient refugia would still exist. Bumblebees and Butterflies- additional silviculture activities could have a beneficial or adverse cumulative effect on pollinator habitat depending on the timing, location, and intensity of the fire

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					but it would be staggered across multiple years so the area would continue to provide a mosaic of burned and unburned habitat and thus provide suitable habitat for this species.
Fuels Reduction & Rx Burning – Austin project, Malheur NF	The effects from prescribed fire proposed in the Austin Vegetation Management Project would be additional alteration of suitable habitat for PETS species.	Yes	Yes	No	Snails- Prescribed fire treatments proposed in the Austin project could have cumulative effects on mollusk survival and dispersal but long term effects at the population level are not expected because sufficient refugia would still exist. Bumblebees and Butterflies- additional prescribed fire could have a beneficial or adverse cumulative effect on pollinator habitat depending on the timing, location, and intensity of the fire but it would be staggered across multiple years so the area would continue to provide a mosaic of burned and unburned habitat and thus provide suitable habitat for this species.
Special Uses:		Yes	Yes	No	Special Uses will have minimal impact to PETS.
Recreation-Dispersed Camping	The primary effects to PETS species from dispersed camping would be displacement away campsites.	Yes	Yes	No	The effect to PETS species from dispersed camping is very localized and insignificant at current levels of use.
Recreation-Snowmobile Trails	The primary effects to PETS species from snowmobiles would be displacement away from trails due to disturbance.	Yes	Yes	No	The Patrick project would not increase the amount of snowmobile trails or human disturbance during winter. Any increase in human disturbance would occur during implementation and would be short in duration.
Recreation -Firewood Cutting	Reduction of snag habitat	Yes	Yes	Yes	Temporarily opening roads for harvest activities can result in a temporary increase in firewood cutting along roads, reducing habitat for snag dependent species.
Recreation – OHV Use	The primary effects to PETS species from OHVs would be direct mortality and displacement away from trails due to disturbance.	Yes	Yes	No	The Patrick project would not increase the amount of open roads and trails or the associated disturbance. Any increase in human disturbance would occur during implementation and would be short in duration.
Recreation – Antlers Guard Station	The primary effects to PETS species would	Yes	Yes	No	The effect to PETS species from human disturbance associated with this guard station is very localized and

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
	be displacement away the guard station caused by the associated human presence.				insignificant at current levels of use.
Recreation - Campground	The primary effects to PETS species from recreation at campgrounds would be displacement away from campgrounds.	Yes	Yes	No	The effect to PETS species from campgrounds is very localized and insignificant at current levels of use.
Roads & Trails – Travel Management Plan	The primary effects to PETS species from the TMP would be an improvement in habitat quality and a reduction in threats associated with road-related disturbance and mortality.	Yes	Yes	No	The future TMP in combination with the postsale road management plan in this project could reduce road densities and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing habitat quality and reducing threats for PETS species. However, it is unclear whether the road management plan proposed in this project would have a significant effect at the population scale.
Road Maintenance	Short-term disturbance associated with road maintenance, potential source of mortality for less mobile species	Yes	Yes	No	Effects to PETS species from ongoing road maintenance are insignificant because road maintenance occurs infrequently and impacts to PETS would be short-term.
Roads – Danger Tree Removal	Reduction in snag habitat, short-term disturbance associated with activity.	Yes	Yes	No	Disturbance associated with activity would be short-term and immeasurable. Reduction in snags would be at an insignificant scale.
Grazing Allotments	Alteration of suitable habitat	Yes	Yes	No	Amphibians- Grazing within the project area has the potential to alter suitable habitat for amphibians. However, studies in Northeastern Oregon have shown that Columbia spotted frogs can persist in areas where cattle are present so it is not expected that grazing would create a population level effect when combined with the proposed activities. Mollusks- Reduction in habitat quality due to grazing may create additional habitat loss when combined with the proposed project activities, although it is not likely to significantly affect mollusk population trends because impacts from cattle grazing tend to be

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					localized and sufficient refugia for snails would still exist. Pollinators- Grazing could create an additional loss of habitat when combined with prescribed fire. However, this effect would not result in a downward trend in the population because prescribed fire would be staggered over multiple years and would not occur over the entire project area so a mosaic of burned and unburned habitat would exist at all times.
Wildlife Enhancement – Patrick Cooperative Travel Management Area	No effect	Yes	Yes	No	Effects from maintaining this travel management area would be similar to the existing condition.
Mining	No Effect	No	No	No	No approved plans of operation
Private Land Activities					
Management Indicator Species – Terrestrial Goshawk and Pileated Woodpeckers (see also LOS)					
Noxious Weed Management	No effect	Yes	Yes	No	Does not affect habitat suitability of goshawk or pileated woodpeckers
Veg Management – Austin project, Malheur NF	Habitat loss or degradation	Yes	Yes	No	Cumulatively, vegetation management activities proposed in the Austin Vegetation management project are not expected to change the viability outcome and source habitat will remain well distributed
Fuels Reduction & Rx Burning – Austin project, Malheur NF	No effect	No	No	No	Prescribed fire may simplify, but does not typically remove source habitat
Special Uses:		Yes	Yes	No	Special Uses will have limited to minimal impact to MIS.
Recreation-Dispersed Camping	No effect	Yes	Yes	No	Dispersed camping does not affect goshawk or pileated habitat suitability
Recreation-Snowmobile Trails	Temporary disturbance	Yes	Yes	No	Pileated woodpeckers and goshawk may avoid snowmobile trails but the effect would be temporary and short-term
Recreation -Firewood Cutting	Reduction in available snags and logs	Yes	Yes	No	the effect is limited to areas adjacent to open roads
Recreation – OHV Use	Temporary disturbance	Yes	Yes	No	Marten may avoid OHV trails but the effect would be temporary and short-term
Recreation – Antlers Guard Station	No effect	Yes	Yes	No	The guard station does not affect habitat suitability
Roads & Trails – Travel Management Plan	Increase in habitat quality	Yes	Yes	No	The future TMP in combination with the postsale road management plan in this project could reduce road densities and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing habitat permeability and reducing threats for pileated and goshawk. However, it is unlikely that

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					the road management plan proposed in this project would have a significant effect at the population scale.
Road Maintenance	No effect	Yes	Yes	No	Routine road maintenance is small scale and temporary
Roads – Danger Tree Removal	Reduction in snags and logs	Yes	Yes	No	The effect is limited to areas adjacent to open roads
Grazing Allotments	No effect	Yes	Yes	No	Ongoing and future livestock grazing is expected to have minimal effect on suitable habitat, Additional grazing may occur in treated stands within the project area but is not expected to alter suitable habitat as cattle do not impact down wood, canopy cover or snag levels.
Wildlife Enhancement – Patrick Closure Area	No effect	Yes	Yes	No	Effects from maintaining this travel management area would be similar to the existing condition.
Mining	No effect	No	No	No	No active plans
Private Land Activities	Reduce available habitat	Yes	Yes	Yes	Private land activities are expected to continue and manage stands primarily out of commercial and wildfire mitigation interests. Treatments will likely not incorporate goshawk/pileated habitat needs and will reduce the available habitat.
Management Indicator Species – Terrestrial American Marten (see also LOS)					
Noxious Weed Management	No effect	Yes	Yes	No	Does not affect habitat suitability of marten
Veg Management - Austin project, Malheur NF	Habitat loss or degradation	Yes	Yes	No	Cumulatively, vegetation management activities proposed in the Austin Vegetation management project are not expected to change the viability outcome and marten source habitat will remain well distributed
Fuels Reduction & Rx Burning - Austin project, Malheur NF	No effect	No	No	No	Prescribed fire may simplify, but does not typically remove source habitat
Special Uses:		Yes	Yes	No	Special Uses will have limited to minimal impact to MIS.
Recreation-Dispersed Camping	No effect	Yes	Yes	No	Dispersed camping does not affect marten habitat suitability
Recreation-Snowmobile Trails	Temporary disturbance	Yes	Yes	No	Marten may avoid snowmobile trails but the effect would be temporary and short-term
Recreation -Firewood Cutting	Reduction in available snags and logs	Yes	Yes	No	the effect is limited to areas adjacent to open roads
Recreation – OHV Use	Temporary disturbance	Yes	Yes	No	Marten may avoid OHV trails but the effect would be temporary and short-term
Recreation – Antlers Guard Station	No effect	Yes	Yes	No	The guard station would not affect marten habitat suitability
Roads & Trails – Travel Management Plan	Increase in habitat quality	Yes	Yes	No	The future TMP in combination with the postsale road management plan in this project could reduce road densities

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing habitat permeability and reducing threats for marten. However, it is unlikely that the road management plan proposed in this project would have a significant effect at the population scale.
Road Maintenance	No effect	Yes	Yes	No	Routine road maintenance is small scale and temporary
Roads – Danger Tree Removal	Reduction in available snags and logs	Yes	Yes	No	the effect is limited to areas adjacent to open roads
Grazing Allotments	No effect	Yes	Yes	No	Cattle tend to avoid areas with high amounts of down wood. Grazing does not typically alter marten habitat suitability.
Wildlife Enhancement – Patrick Closure Area	No effect	Yes	Yes	No	Effects from maintaining this travel management area would be similar to the existing condition.
Mining	No effect	No	No	No	There are no active claims
Management Indicator Species – Terrestrial Primary Cavity Excavators					
Noxious Weed Management	No effect	Yes	Yes	No	Does not affect habitat suitability
Veg Management - Austin project, Malheur NF	Habitat loss or degradation	Yes	Yes	No	Cumulatively, vegetation management activities proposed in the Austin Vegetation management project are not expected to change population viability because primary cavity excavator habitat will remain well distributed
Fuels Reduction & Rx Burning - Austin project, Malheur NF	No effect	Yes	Yes	No	Prescribed fire proposed in the Austin Vegetation Management Project would not reduce habitat quality or quantity for primary cavity excavators
Special Uses:		Yes	Yes	No	Special Uses will have limited to minimal impact to MIS.
Recreation-Dispersed Camping	No effect	Yes	Yes	No	Dispersed camping does not affect habitat suitability
Recreation-Snowmobile Trails	Temporary disturbance	Yes	Yes	No	Primary cavity excavators may avoid snowmobile trails but the effect would be temporary and short-term
Recreation -Firewood Cutting	Reduction in available snags and logs	Yes	Yes	No	the effect is limited to areas adjacent to open roads.
Recreation – OHV Use	Temporary disturbance	Yes	Yes	No	Cavity excavators may avoid OHV trails but the effect would be temporary and short-term
Recreation – Antlers Guard Station	No effect	Yes	Yes	No	The guard station does not affect habitat for primary cavity excavators
Roads & Trails – Travel Management Plan	Increase in habitat quality	Yes	Yes	No	The future TMP in combination with the postsale road management plan in this project could reduce road densities

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing habitat quality and reducing threats for primary cavity excavators. However, it is unlikely that the road management plan proposed in this project would have a significant effect at the population scale.
Road Maintenance	No effect	Yes	Yes	No	Routine road maintenance is small scale and temporary
Roads – Danger Tree Removal	Reduction in snag and log availability	Yes	Yes	No	Effects would be limited to areas along open roads
Grazing Allotments	No effect	Yes	Yes	No	Grazing does not typically affect habitat suitability for primary cavity excavators
Wildlife Enhancement – Patrick Closure Area	No effect	Yes	Yes	No	Effects from maintaining this travel management area would be similar to the existing condition.
Mining	No effect	No	No	No	No active claims
Private Land Activities		Yes	Yes	No	Private land activities are expected to continue and manage stands primarily out of commercial and wildfire mitigation interests.
Neotropical Migratory Birds (NTMB)					
Noxious Weed Management	Reduction of invasive species	Yes	Yes	No	Effects are site specific and localized and not expected to impact populations of NTMB
Veg Management - Austin project, Malheur NF	Alteration in habitat quality and quantity	Yes	Yes	No	Silviculture treatments proposed in the Austin Vegetation Management Project could benefit some species while negatively impacting others. This could increase or decrease reproductive success within these two project areas but it is not expected to be at a scale that would measurably impact the growth of the population.
Fuels Reduction & Rx Burning - Austin project, Malheur NF	Alteration in habitat quality and quantity	Yes	Yes	No	Prescribed fire treatments proposed in the Austin Vegetation Management Project could benefit some species while negatively impacting others. This could increase or decrease reproductive success within these two project areas but it is not expected to be at a scale that would measurably impact the growth of the population.
Special Uses:		Yes	Yes	No	Special Uses will have limited to minimal impact to migratory birds.
Recreation-Dispersed Camping	No effect	Yes	Yes	No	Dispersed camping does not affect habitat suitability
Recreation-Snowmobile Trails	No effect	Yes	No	No	Most migratory birds do not winter in the project area
Recreation -Firewood Cutting	Reduction in snag and log habitat	Yes	Yes	No	Effect is limited to areas along roads

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Recreation – OHV Use	Temporary disturbance	Yes	Yes	No	Avian species may avoid OHV trails, but the effect would be temporary and short-term
Recreation – Antlers Guard Station	No effect	Yes	Yes	No	The guard station does not impact habitat quality for avian species
Roads & Trails – Travel Management Plan	Improvement in habitat quality and decrease in threats	Yes	Yes	No	The future TMP in combination with the postsale road management plan in this project could reduce road densities and will manage cross-country motor vehicle use thereby reducing disturbance from motorized vehicles, off-trail OHVs and subsequently increasing habitat quality and reducing threats for avian species. However, it is unlikely that the road management plan proposed in this project would have a significant effect at the population scale.
Road Maintenance	No effect	Yes	Yes	No	Routine road maintenance does not impact habitat quality or availability
Roads – Danger Tree Removal	Reduction in snag and log availability	Yes	Yes	No	Effect would be limited to areas along roads
Grazing Allotments	Reduction in breeding habitat quality	Yes	Yes	No	Additional grazing may occur in treated stands within the project area and decrease shrub and grass cover that is used for nesting structure. The effect would be immeasurable at the population scale.
Wildlife Enhancement – Patrick Closure Area	No effect	Yes	Yes	No	Effects from maintaining this travel management area would be similar to the existing condition.
Mining	No effect	No	No	No	No active claims
Private Land Activities		Yes	Yes	No	Private land activities are expected to continue and manage stands primarily out of commercial and wildfire mitigation interests.
Water Quality, Fisheries Habitat, and Populations					
Noxious Weed Management		Yes	Yes	No/Low	Weed treatments within RHCAs pose a risk to aquatic habitat and species and BMPs are used to minimize potential effects. Mitigation measures that include type of chemical treatments (using only herbicides that are labeled for use adjacent to aquatic areas), application rates, area treated, timing, and buffers on streams significantly reduce the risk of effects from this activity. Therefore, ongoing noxious weed treatment activities are rated as having a low risk of cumulative effects with the activities proposed under the action alternatives for the Patrick Project on watershed processes, and aquatic species and their habitat.
Veg Management - Austin project, Malheur NF		No	No	No	Road relocations and closures are expected to result in incremental improvement in watershed processes

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					and aquatic habitat.
Fuels Reduction & Rx Burning - Austin project, Malheur NF		No	No	Yes/Low	Thinning and pile burning would occur in RHCAs in Alternative 2. In Alternative 2 and 3 fuels burn blocks would allow low intensity fire to back into the outer edges of RHCAs. These treatments may decrease the risk of high intensity fires in these areas. Thinning in the Austin Project may help because more contiguous acres would be treated for fuels reduction.
Ditches		Yes	Yes	No/Low	Water rights exist within the project area where water is withdrawn from streams and conveyed through ditches to its place of use. Removing water from perennial streams has the potential to reduce wetted depths and heat the water faster downstream of the points of diversion. RVR NCT treatments along perennial channels has the potential to reduce shade over the short term. There may be a short term (less than 5 years) additive impact to water temperatures until higher quality riparian hardwoods get established and provide streamside shade. Because this ditch is not screened, it has the possibility to affect fish populations.
Recreation – Dispersed Camping		Yes	Yes	No/Low	Dispersed camp sites are located adjacent to fish-bearing streams. Dispersed camp sites adjacent to streams are a source of fine sediment and camp wood cutting can reduce future LWD to stream channels. Closing and blocking roads in RHCAs would have less use and has the potential to contribute less sedimentation impacts to streams adjacent.
Recreation-Snowmobile Trails		Yes	Yes	No	Not detectable at subwatershed scale. Snowmobile trails occur across the project area. These trails have snow compacted that has a higher density. It may proportionally prolong water runoff locally around trails.
Recreation -Firewood Cutting		Yes	Yes	No/Low	Harvest of these products is not permitted in administratively prohibited areas such as developed Antler's Guard Station or within 100 feet of wet areas, seeps springs, bogs, and standing or flowing water. No trees are permitted to be cut within 300 feet of perennial fish-bearing streams. Compliance with these regulations is monitored by USFS Special Forest Product Coordinators and Law Enforcement Officers.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Recreation – OHV Use		Yes	Yes		See travel management
Recreation – Antlers Guard Station		Yes	No	No	No cumulative impact.
Roads & Trails – Travel Management Plan		Yes	Yes	Yes/Low	Not detectable at subwatershed scale, OHV use will be regulated and will prevent or minimize direct and indirect effects to water quality and fisheries resources resulting in beneficial effects. Road management in the Patrick project in combination with the travel management plan may result in a decrease in fine sediment levels. Cumulative effects would have an overall benefit on water quality and aquatic habitat.
Road Maintenance		Yes	Yes	Yes/ low	The short-term effects from road maintenance activities are minimized by following INFISH standards and guidelines, and road maintenance BMPs. In the long-term, road maintenance activities reduce adverse effects to aquatic habitat by reducing overall erosion rates on the road system.
Roads – Danger Tree Removal		Yes	Yes	No/Low	Danger trees within RHCAs are cut but left on site.
Grazing Allotments	Potential damage to riparian areas and water quality.	Yes	Yes	Yes/ Moderate	The majority of the project area is open to livestock grazing. This impacts streambanks and sediment in to channels, riparian vegetation and water quality. Vegetation activities in RHCAS proposed in Alternative 2 will remove vegetation in RHCAs; these activities combined could increase potential for impacts to riparian areas and water quality. INFISH S&Gs and WWNF utilization levels minimize cattle impacts to aquatic habitat. There would not be cumulative effects from Vegetation treatments in Alternative 3 where there is no entry into RHCAs.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	Roads that would be closed would receive less usage and would have grass and ground cover provide stability to the road prism. These roads would be stormproofed and their condition would not influence channel substrate.
Mining		No	No	No	No impacts.
Private Land Activities		Yes	Yes	No/Low	Erosion rates from logged areas on private lands likely increased during and after logging activities. Impacts from these timber sales have likely abated since majority of the harvest activities occurred around 20 years ago.
Soils					

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	Does not create any ground disturbance.
Veg Management – Austin project, Malheur NF		No	Yes	No	
Fuels Reduction & Rx Burning – Austin project, Malheur NF		No	No	No	
Special Uses: Ditches, power lines, etc.	Ground Disturbance	Yes	Yes	No	Special uses are generally limited in space and occur only in the area specific to the authorized use. Maintenance activities may create soil disturbance but would be limited in time and space. Additionally, potential soil disturbance would only occur in areas administratively removed from the productive land base.
Recreation-Dispersed Camping		Yes	Yes	No	Potential for some disturbance but primarily would occur within already disturbed areas.
Recreation-Snowmobile Trails		No	No	No	
Recreation -Firewood Cutting		Yes	Yes	No	Some disturbance from skidding trees and driving off road to retrieve wood – but generally very limited where occurs and minor in nature.
Recreation – OHV Use		Yes	Yes	No	See travel management
Recreation – Antlers Guard Station		No	No	No	
Roads & Trails – Travel Management Plan		Yes	Yes	Yes	Would manage cross-country motor vehicle use and limit use to designated roads, trails, and areas which would allow user built roads and trails to recover and grow back over. This in combination with the decommissioning of roads and the obliteration of temporary roads on existing wheel tracks would provide for a long term beneficial effect to soils.
Road Maintenance		Yes	Yes	No	Already disturbed
Roads – Danger Tree Removal		Yes	Yes	No	Minor, same as firewood.
Grazing Allotments		Yes	Yes	No	Potential additional access of cattle into units previously inaccessible.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	Reduction in vehicle travel would decrease potential soil disturbance within the closure area
Mining		No	No	No	
Private Land Activities		No	No	No	Don't overlap in time and space because units are all on NFS lands.
PETS Plants					
Noxious Weed Management	Overspray	Yes	Yes	Yes	Herbicide applicators must be careful to locate and avoid PETS plant occurrences because there are several adjacent to noxious weeds.

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
Veg Management - Austin project, Malheur NF		No	No	No	(check to see what PETS and confirm effects calls)
Fuels Reduction & Rx Burning – Austin project, Malheur NF		No	No	No	(check to see what PETS and confirm effects calls)
Special Uses:		Yes	Yes	No	No special uses affecting currently and none expected
Recreation- Dispersed Camping		Yes	Yes	No	Any of these could potentially disturb rare plants but only if use of off road areas changes from present
Recreation- Snowmobile Trails		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Recreation – Antlers Guard Station		Yes	Yes	No	
Roads & Trails – Travel Management Plan		Yes	Yes	No	
Road Maintenance		Yes	Yes	No	Presume no new areas of disturbance just maintain prism
Roads – Danger Tree Removal		Yes	Yes	No	Presume no off-road driving
Grazing Allotments	Trailing and loafing in previously unutilized areas leading to spread of weeds	Yes	Yes	No	Potential movement of cattle to previously inaccessible areas; however, no PETS known to occur in those areas.
Wildlife Enhancement – Patrick Closure Area	positive	Yes	Yes	No	No ground disturbance
Mining		Yes	Yes	Yes	Depending on operations boundaries, could impact PETS. Need to check
Private Land Activities		Yes	No	No	All units on FS land. No PETS surveyed on private, so their status is unknown and not considered overall.
Noxious Weeds					
Noxious Weed Management	Reduction in the extent and spread of invasive plant populations	Yes	Yes	Yes	Reduces the extent and amount of invasive plant sites throughout the project area through on-going treatments of existing invasive populations.
Veg Management – Austin project, Malheur NF	Movement and introduction of invasive plant material along with reduction in potential for large scale fire.	No	Yes	No	Ground disturbance activities can increase potential for establishment and spread of invasive plants adjacent to Patrick. Decrease in the potential for large-scale wildfire decreases the potential for large-scale establishment.
Fuels Reduction & Rx Burning- Austin project, Malheur NF	Movement and introduction of invasive plant material along	Yes	Yes	No	Understory plant and thatch removal increases the potential for establishment and spread of invasive plants adjacent to Patrick. Decreased

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
	with reduction in potential for large scale fire.				potential for large-scale wildfire decreases the potential for large scale establishment and spread.
Special Uses	Ground disturbance or transportation of non-native plant material	Yes	Yes	Yes	Maintenance and repair of most Special use facilities can create situations that favor the establishment and spread of invasive plants by disturbing ground and carrying seeds to un-infested areas. Regional standards along with noxious weed requirements which are part of the special use permits would help to reduce the risk of this potential effect. Patrick project activities overlap many of these sites and would increase the potential for spread of invasive species.
Recreation-Dispersed Camping	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with dispersed camping due to the movement and spread of invasive plant material by people and equipment. This risk is further minimized by a focused treatment of invasive plants in and around camping and gathering areas.
Recreation-Snowmobile Trails	No potential effects due to timing of activity	Yes	Yes	No	Winter use is unlikely to create ground disturbance or to spread invasive plant material; therefore, there are no measurable cumulative effects.
Recreation -Firewood Cutting	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with firewood gathering due to the limited nature of the activity and the location near already established roads. This risk is further minimized by a focused treatment of invasive plants in commonly used gathering areas.
Recreation – OHV Use	Movement and introduction of invasive plant material	Yes	Yes	Yes	Unregulated use of off highway vehicles poses a risk to the establishment and spread of non-native species due to the movement of plant material on equipment and the ability to introduce these materials to random areas that are difficult to identify for treatment. Re-opening roads and opening up stands with fuel reduction treatments in the Patrick project increases the potential for introduction and spread of invasive plant material.
Recreation – Antlers Guard Station	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with camping due to the movement and spread of invasive plant material by people and equipment. This risk is further minimized by a focused treatment of invasive plants in and around camping and gathering areas.
Roads & Trails – Travel Management Plan	Decrease in possibility of spread and new introduction	Yes	Yes	Yes	Designating roads, trails and areas has the potential improve the compliance with the Patrick post-sale road management plan because use will only be allowed on designated roads and trails. Limiting this use will minimize the potential introduction and

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					spread of noxious weeds.
Road Maintenance –	Increase in possibility of spread and new introduction	Yes	Yes	Yes	Ongoing road maintenance creates situations that favor the spread of invasive plants by disturbing roadsides and can increase the establishment by carrying seeds to un-infested areas.
Roads – Danger Tree Removal	Increase in possibility of spread and new introduction	Yes	Yes	No	Minimal risks, similar to firewood gathering, due to the limited nature of the activity and the location near already established roads. This risk is further minimized by a focused treatment of invasive plants along roads.
Grazing Allotments	Ground disturbance or transportation of non-native plant material	Yes	Yes	Yes	Cattle are vectors for invasive plant seeds. Opening up the forest with fuel reduction practices along with creating seed beds through ground disturbance increases the potential for cattle to transport noxious weed seeds into new areas and increase spread.
Wildlife Enhancement – Patrick Closure Area	Reduction in road use during critical winter range period	Yes	Yes	No	Reduction in vehicle travel could decrease the spread of invasive plant seeds and decrease ground disturbance and its correlated invasive plant establishment.
Mining	No approved plans of operation	No	No	No	Ground disturbance by mining activities could increase the establishment and spread of invasive plant. The absence of this activity eliminates this potential.
Private Land Activities	Equipment and materials travelling on road systems shared by project.	Yes	Yes	Yes	Potential for weed seeds to be carried from private land which may not have an active invasive plant management program to locations that intersect with project activities.
Access and Transportation Management					
Noxious Weed Management		Yes	Yes	No	Will not affect road surfaces.
Veg Management - Austin project, Malheur NF		No	Yes	No	
Fuels Reduction & Rx Burning – Austin project, Malheur NF		No	No	No	
Special Uses		No	No	No	
Recreation-Dispersed Camping		Yes	Yes	No	Some traffic on road system anticipated for Dispersed Camping but not expected to be measurable to road system.
Recreation-Snowmobile Trails	Positive	Yes	Yes	No	No effect, Groomed routes would only be better after the Timber Sale.
Recreation -Firewood Cutting		Yes	Yes	No	Some traffic on road system anticipated for firewood gathering but not expected to be measurable to road

Project	Potential	Overlap in:		Measurable	Effects/or Rationale for No
					system.
Recreation – OHV Use		Yes	Yes	No	Some traffic on road system anticipated for OHV use but not expected to be measurable to road system. Some temporary alternative routes may be utilized.
Recreation – Antlers Guard Station		Yes	Yes	No	No effect, Antlers Guard Station is accessed by Baker County road 529.
Roads & Trails – Travel Management Plan	Increased number of users on fewer roads	Yes	Yes	Yes	Potential for conflicts, more wear on designated routes, increase in maintenance needed (and associated funding), roads grow in, change in how roads used for administrative use.
Road Maintenance	Improved road conditions and other resource protection	No	No	No	
Roads – Danger Tree Removal		Yes	Yes	No	Minor scattered occurrence, not expected to have measurable effect to transportation system; however, will improve public safety and reduce the need for logging down trees out of roads.
Grazing Allotments		Yes	Yes	No	No effects to roads, some traffic on road system anticipated for Grazing allotments but not expected to be measurable to road system.
Wildlife Enhancement – Patrick Closure Area		Yes	Yes	No	No effect, Haul routes inside closure areas are planned to not be used during closure periods.
Mining		No	No	No	
Private Land Activities		Yes	Yes	No	No effects to roads, some traffic on road system anticipated for Private Land access/activities but not expected to be measurable to road system. Some temporary alternative routes may be utilized.